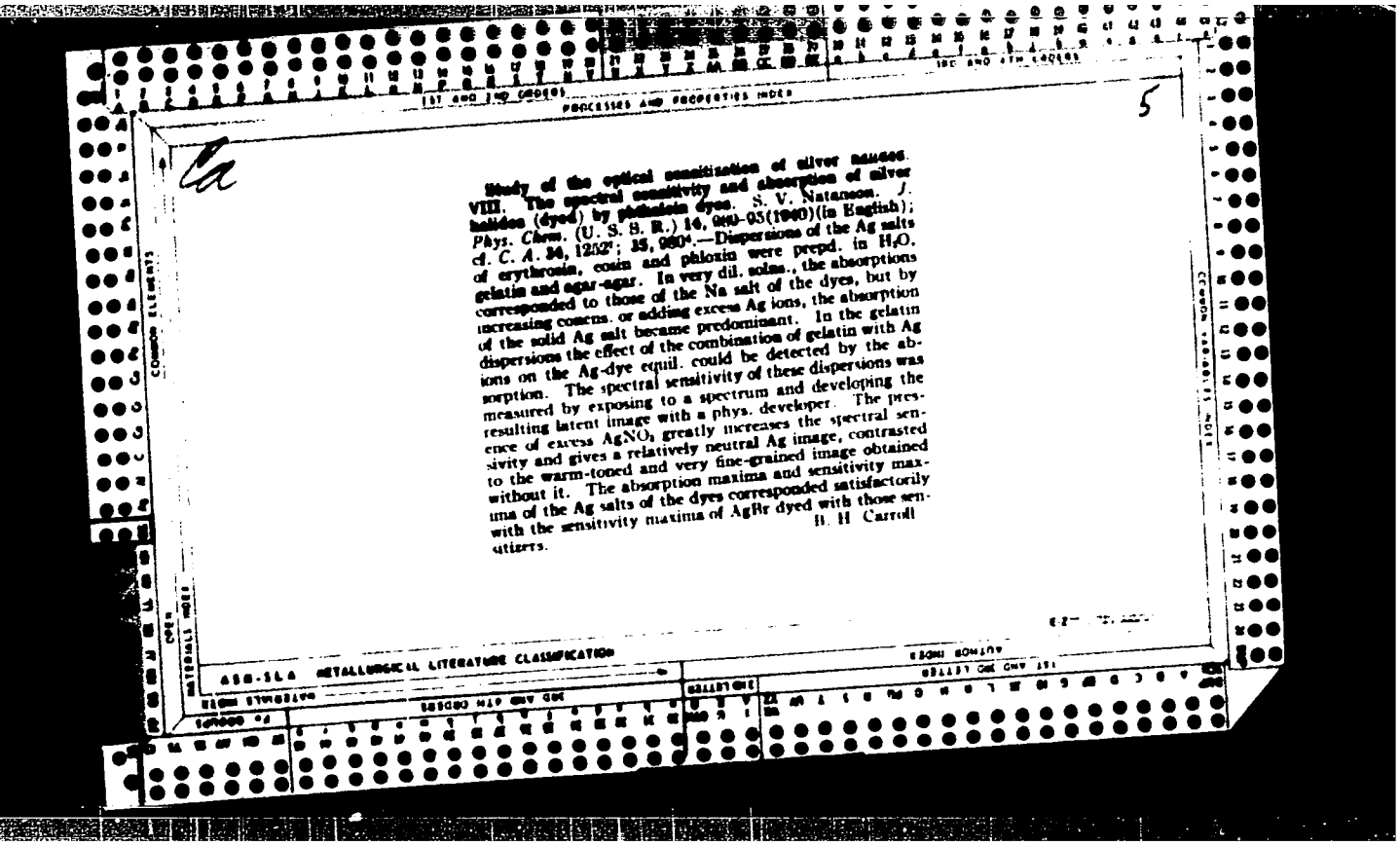


Study of the optical sensitization of silver halides. VIII. The spectral sensitivity and absorption of silver halides (dyed) by phthalein dyes. S. V. Natanson. *J. Phys. Chem.* (U. S. S. R.) 14, 980-93(1940)(in English); cf. *C. A.* 34, 1252; 35, 980⁴.—Dispersions of the Ag salts of erythrosin, eosin and phloxin were prepd. in H_2O, gelatin and agar-agar. In very dil. solns., the absorptions corresponded to those of the Na salt of the dyes, but by increasing concns. or adding excess Ag ions, the absorption of the solid Ag salt became predominant. In the gelatin dispersions the effect of the combination of gelatin with Ag ions on the Ag-dye equil. could be detected by the absorption. The spectral sensitivity of these dispersions was measured by exposing to a spectrum and developing the resulting latent image with a phys. developer. The presence of excess $AgNO_3$ greatly increases the spectral sensivity and gives a relatively neutral Ag image, contrasted to the warm-toned and very fine-grained image obtained without it. The absorption maxima and sensitivity maxima of the Ag salts of the dyes corresponded satisfactorily with the sensitivity maxima of AgBr dyed with those sensitizers.

H. H. Carroll

NATANSON, S. V.

"The Relation Between the Structure of Thiacarbocyanine and Their Capacity for Second Type Sensitization," Acta Phys., 21, No.3, 1946

NATANSON, S. V.

"Structure of the Sensitization Spectra of Cyanine Dyes," Acta Phys., 21, No.3, 1946.

Sci.Res.Chem.Inst. im. Karpov, Moscow

P. A.

Sensitizing + Sensitometry

771.534.21

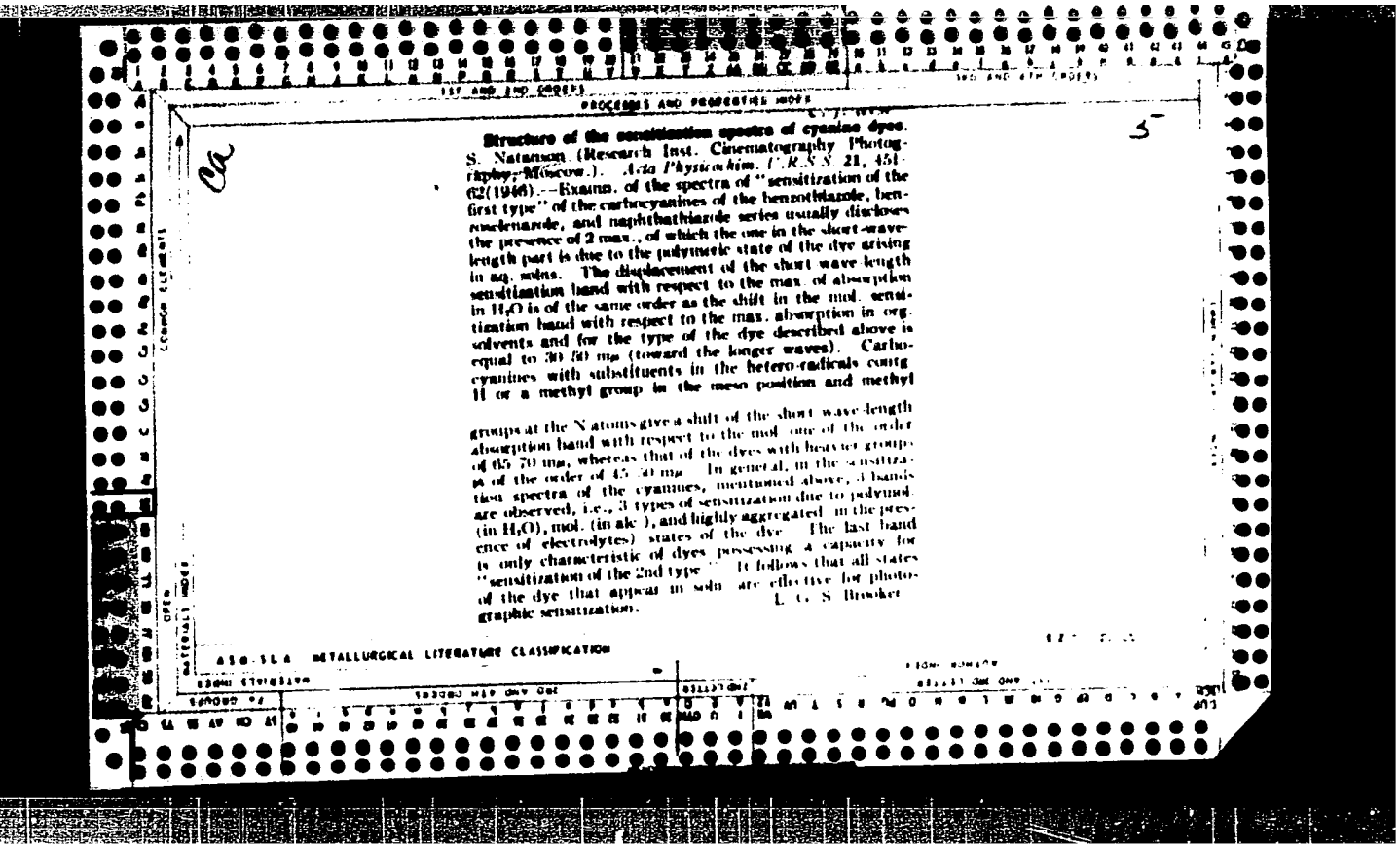
803
The Interaction of Sensitizing Dyes with Silver Ions. S. NATANSON. *Acta Physicochim., U.R.S.S.*, 21, 430-436, 1946.—The author studied the reaction between silver ions with about fifty cyanine dyes of different structure by means of potentiometric titration. He found that some dyes showed a second inflection on the further addition of silver nitrate which is attributed to the interaction of the silver ions with the cation of the dye. The potential of this second inflection is characteristic for each dye. It indicates the formation of a precipitate which is soluble in potassium cyanide and decomposed by potassium iodide. These complexes, in which one cation usually binds one or two silver ions, decompose slowly with the precipitation of metallic silver. The capacity to form complexes is connected with the tendency of the dyes to fog formation. It depends on the dye structure and is especially pronounced in long-chain cyanines. *Ansco Abs.*

Sci. Res. Inst Phys Chem im. Karpov —
Sci. Assoc., Inst Cinematography, Moscow

T.A.

802 771.534.2

The Relation Between the Structure of Thiocarbocyanines and their Capacity for Second Type Sensitization. I. LEVSHIN and S. NATANSON. *Acta Physicochim. U.R.S.S.*, 21, 437-450, 1946.—The capacity of over 300 dyes to produce sensitization of the second order was investigated. This capacity is inherent in those dyes which in the presence of electrolytes or in layers in glass obtained by evaporation assume a highly aggregated state with a characteristic absorption spectrum, especially meso-substituted thia- and selenacarbocyanines. The influence of the hetero-radicals, of chain length and of substituents at the base nitrogen, phenyl ring and chain was studied. *Auth. Abs.*



Structure of the sensitization spectra of cyanine dyes. S. Natanson (Research Inst. Cinematography Photography, Moscow.). *Acta Physicochim. U.R.S.S.* 21, 451-62(1946).—Examn. of the spectra of "sensitization of the first type" of the carbocyanines of the benzothiazole, benzoselenazole, and naphthathiazole series usually discloses the presence of 2 max., of which the one in the short-wavelength part is due to the polymeric state of the dye arising in aq. solns. The displacement of the short wave-length sensitization band with respect to the max. of absorption in H_2O is of the same order as the shift in the mol. sensitization band with respect to the max. absorption in org. solvents and for the type of the dye described above is equal to 30-50 mμ (toward the longer waves). Carbocyanines with substituents in the hetero-radicals containing at the N atoms give a shift of the short wave-length absorption band with respect to the mol. one of the order of 65-70 mμ, whereas that of the dyes with heavier groups is of the order of 45-50 mμ. In general, in the sensitization spectra of the cyanines, mentioned above, 3 bands are observed, i.e., 3 types of sensitization due to polymol. (in H_2O), mol. (in alc.), and highly aggregated (in the presence of electrolytes) states of the dye. The last band is only characteristic of dyes possessing a capacity for "sensitization of the 2nd type." It follows that all states of the dye that appear in soln. are effective for photographic sensitization.

L. C. S. Brooker

LEVKOYEV, I.I.; NATANSON, S.V.

Relation between the structure of thiacarbocyanines and their capacity for the sensitizing of the second order. Trudy NIKFI no.7: 17-24 '47. (MIRA 11:6)

1. Sinteticheskaya laboratoriya Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Thiacarbocyanine) (Photographic sensitometry)

NATANSON, S.V.

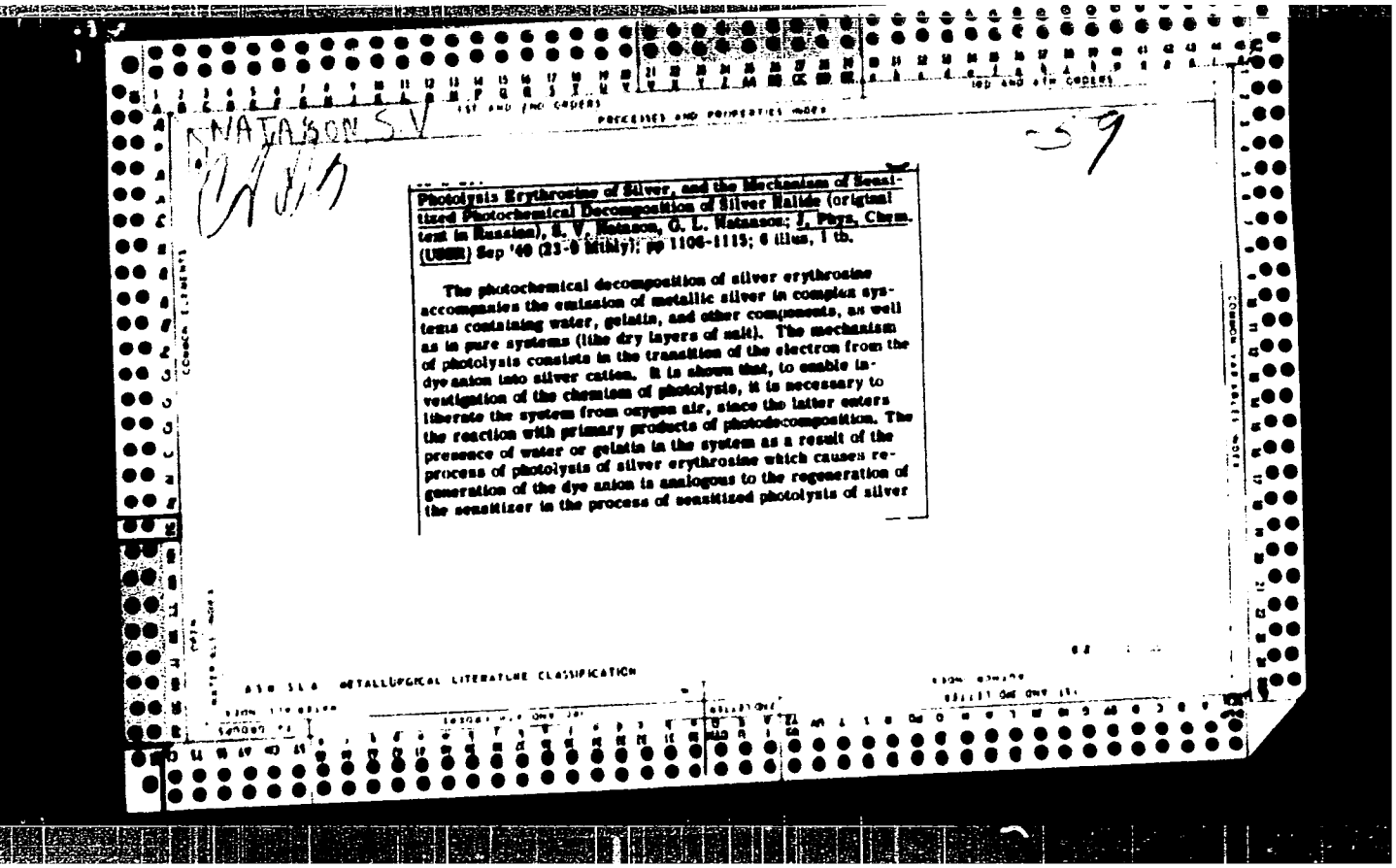
The spectral sensitivity of cyanine dyes. Trudy NIKFI no.7:34-40 '47. (MIRA 11:6)

1. Sinteticheskaya laboratoriya Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Cyanine dyes)

NATANSON, S.V.

The relations of sensitizing dyes with silver ions. Trudy NIKFI no.7: 41-45 '47. (MIRA 11:6)

1. Sinteticheskaya laboratoriya Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Dyes and dyeing)



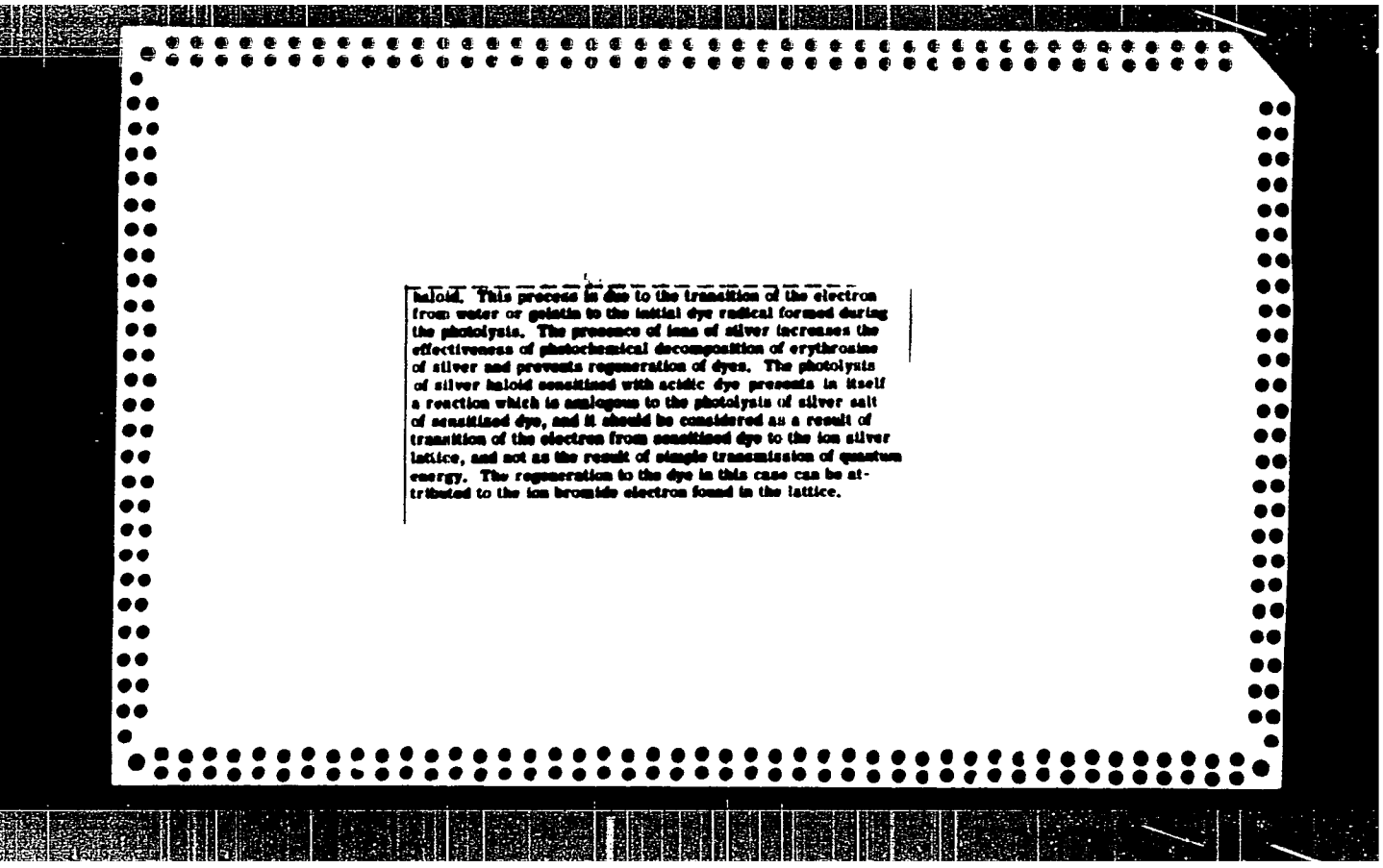
NATASON S.V

59

Photolysis Erythrosine of Silver, and the Mechanism of Sensitized Photochemical Decomposition of Silver Halide (original text in Russian), S. V. Natanson, G. L. Natanson; J. Phys. Chem. (USSR) Sep '40 (23-9 Mthly): pp 1106-1115; 6 illus, 1 tb.

The photochemical decomposition of silver erythrosine accompanies the emission of metallic silver in complex systems containing water, gelatin, and other components, as well as in pure systems (like dry layers of salt). The mechanism of photolysis consists in the transition of the electron from the dye anion into silver cation. It is shown that, to enable investigation of the chemism of photolysis, it is necessary to liberate the system from oxygen air, since the latter enters the reaction with primary products of photodecomposition. The presence of water or gelatin in the system as a result of the process of photolysis of silver erythrosine which causes regeneration of the dye anion is analogous to the regeneration of the sensitizer in the process of sensitized photolysis of silver

METALLURGICAL LITERATURE CLASSIFICATION



haloid. This process is due to the transition of the electron from water or gelatin to the initial dye radical formed during the photolysis. The presence of ions of silver increases the effectiveness of photochemical decomposition of erythrosine of silver and prevents regeneration of dyes. The photolysis of silver haloid sensitized with acidic dye presents in itself a reaction which is analogous to the photolysis of silver salt of sensitized dye, and it should be considered as a result of transition of the electron from sensitized dye to the ion silver lattice, and not as the result of simple transmission of quantum energy. The regeneration to the dye in this case can be attributed to the ion bromide electron found in the lattice.

NATANSON, S. V.

"Photodecomposition of the Silver Salt of Erythrosin and the Mechanism of the Photochemical Decomposition of Silver Halide," Zhur. Fiz. Khim., 23, No.9, 1949

NATANSON, S.V.

USSR/Chemistry - Photographic Sensitizers Apr 52

"Merocyanine Dyestuffs (Derivatives of Rhodanine). III Dimethinemerocyanines-Derivatives of 3-Aminorhodanine and 3-Diacetylaminorhodanines," Z. P. Sytnik, S. V. Natanson, M. V. Deychmeyster L. D. Zhilina, All-Union Sci Res Cine-Photo Inst

Zhur Obshch Khim, Vol XXII, No 4, pp 705-711

Prepd representatives of a new group of dimethine-merocyanines and tested their optical and photographic properties.

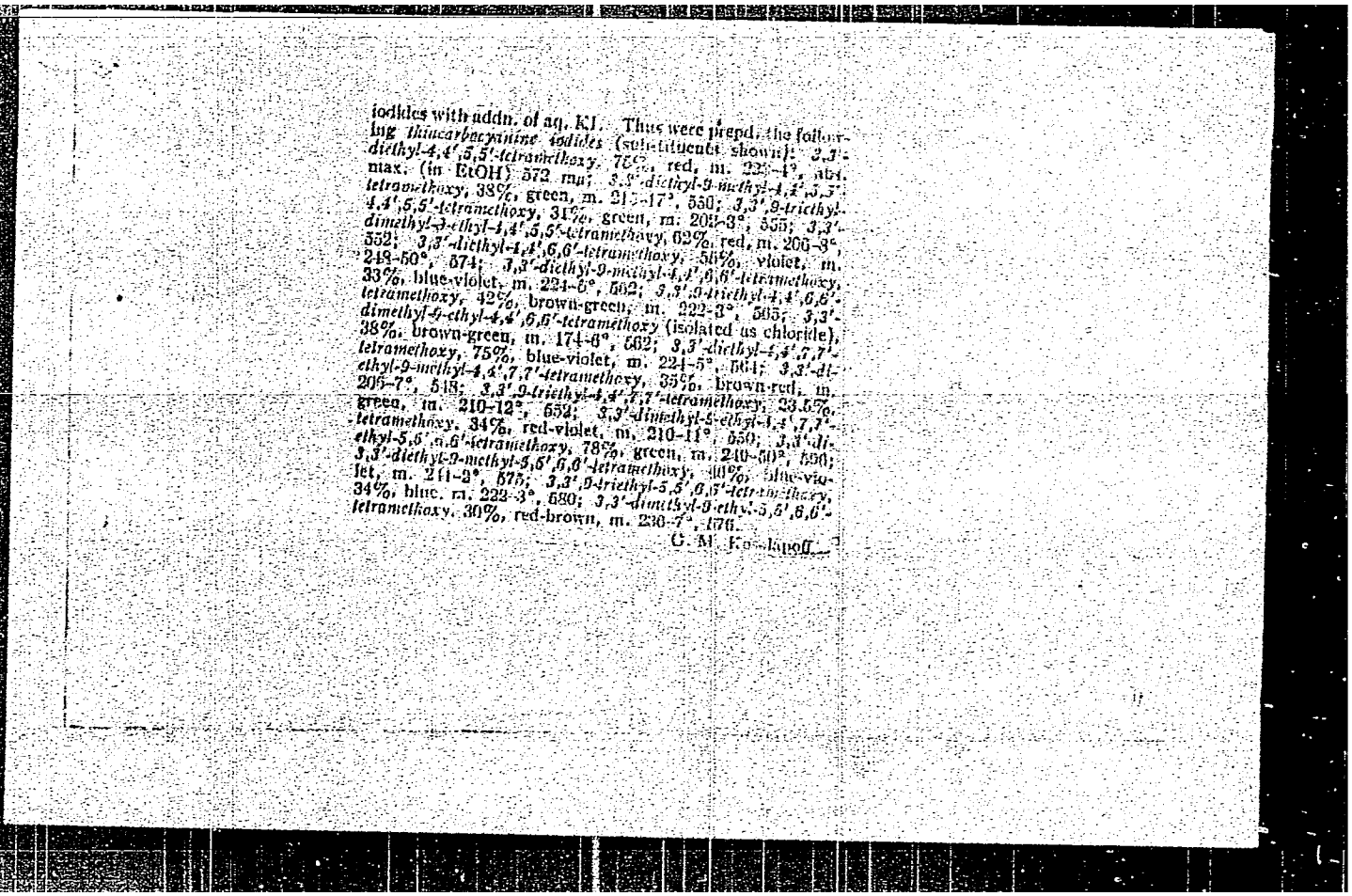
224T53

NATANSON, S. V.

Merocyanine dyes from rhodanine derivatives. III. Dimethinemerocyanines from 3-amino- and 3-diacetylaminorhodanine derivatives. Z. P. Sytnik, S. V. Natanson, M. V. Deichmeister, and L. D. Zhilina. *J. Gen. Chem. U.S.S.R.* 22, 709-74(1952)(Engl. translation).—See *C.A.* 46, 7445g. IV. The structure of products of decomposition of quaternary salts of dimethinemerocyanines. Z. P. Sytnik, L. I. Lezknev, M. V. Deichmeister, and L. D. Zhilina. *Ibid.* 1273-7.—See *C.A.* 47, 1511i. H. L. H.

NATANSON, S. V.

Cyanine dyes. IX. Some tetramethoxythiacarbocyanines. I. I. Levkoev, Z. P. Sytnik, S. V. Natanson, V. V. Durmashkina, T. V. Krasnova, and K. S. Sauer (Cine Photo Research Inst., Leningrad). *Zhur. Obshchei Khim.* 24, 2031-9(1954); cf. C.A. 48, 2409a.—Transition from dimethoxy- to tetramethoxythiacarbocyanines deepens the color of the dyes, probably owing to steric hindrance to the electronic interaction of the MeO and the polymethine chromophores. Treatment of 4.6 g. 3-aminoveratrole with 6.4 ml. Ac_2O overnight gave 96% *3-acetamidoveratrole*, m. 82-3°. This (1.95 g.) in hot C_6H_6 was treated with 0.56 g. P_2S_5 and refluxed 25 min. yielding, after extn. with C_6H_6 and extn. of the org. layer with 5% NaOH, 34% *3-thioacetamido-1,2-dimethoxybenzene* (I), m. 81° (from EtOH). Similarly was prepd. 51% *4-thioacetamido-1,3-dimethoxybenzene* (II), m. 89-90°. I oxidized in 8% KOH with $K_3Fe(CN)_6$ at 0-5° overnight gave 61% *2-methyl-4,5-dimethoxybenzothiazole*, m. 61.5-2° (from petr. ether). Similarly II gave 31% *2-methyl-4,6-dimethoxybenzothiazole*, m. 58-9°, *picrate*, m. 173-4°. *2-Thioacetamido-1,4-dimethoxybenzene* gave similarly 75% *2-methyl-4,7-dimethoxybenzothiazole*, m. 100-1°; *picrate*, m. 155-6°; *methiodide*, m. 209-10°; *ethiodide*, m. 221-2°; *propiodide*, m. 186-7°; *Me p-toluenesulfonate*, m. 149-50°. Oxidation of 4-thioacetamidoveratrole with $K_3Fe(CN)_6$ gave *2-methyl-5,6-dimethoxybenzothiazole*, m. 75-6°; *picrate*, m. 204-5°. The dimethoxy-2-methylbenzothiazoles were heated with 5% excess p-$MeC_6H_4SO_3Et$ 6 hrs. to 140-5° (130-5° for the prepn. of 3,3'-dimethyl derivs.), and the resulting quaternary salts were heated 1 hr. at 190-5° with pyridine and $C(OEt)_3$. After the usual treatment the thiacarbocyanines were pptd. as



iodides with addn. of aq. KI. Thus were prepd the following *thiacarbocyanine iodides* (substituents shown): *3,3'-diethyl-4,4',5,5'-tetramethoxy*, 75%, red, m. 225–9°, abs. max. (in EtOH) 572 mμ; *3,3'-diethyl-9-methyl-4,4',5,5'-tetramethoxy*, 38%, green, m. 215–17°, 550; *3,3',9-triethyl-4,4',5,5'-tetramethoxy*, 31%, green, m. 208–8°, 555; *3,3'-dimethyl-9-ethyl-4,4',5,5'-tetramethoxy*, 62%, red, m. 206–8°, 552; *3,3'-diethyl-4,4',6,6'-tetramethoxy*, 56%, violet, m. 248–50°, 574; *3,3'-diethyl-9-methyl-4,4',6,6'-tetramethoxy*, 33%, blue-violet, m. 224–6°, 562; *3,3',9-triethyl-4,4',6,6'-tetramethoxy*, 42%, brown-green, m. 222–3°, 565; *3,3'-dimethyl-9-ethyl-4,4',6,6'-tetramethoxy* (isolated as chloride), 38%, brown-green, m. 174–6°, 562; *3,3'-diethyl-4,4',7,7'-tetramethoxy*, 75%, blue-violet, m. 224–5°, 564; *3,3'-diethyl-9-methyl-4,4',7,7'-tetramethoxy*, 35%, brown-red, m. 206–7°, 548; *3,3',9-triethyl-4,4',7,7'-tetramethoxy*, 33.5%, green, m. 210–12°, 552; *3,3'-dimethyl-5-ethyl-4,4',7,7'-tetramethoxy*, 34%, red-violet, m. 210–11°, 550; *3,3'-diethyl-5-ethyl-5,6',6,6'-tetramethoxy*, 78%, green, m. 240–50°, 596; *3,3'-diethyl-9-methyl-5,5',6,6'-tetramethoxy*, 40%, blue-violet, m. 241–2°, 575; *3,3',9-triethyl-5,5',6,6'-tetramethoxy*, 34%, blue, m. 223–3°, 580; *3,3'-dimethyl-9-ethyl-5,5',6,6'-tetramethoxy*, 30%, red-brown, m. 236–7°, 576.

G. M. Kosolapoff

NATANSON, S.V.

Absorption and sensitization spectra of 5,5'-dihalogen-substituted thiocarbocyanines. S. V. Natanson. *Doklady Akad. Nauk S.S.S.R.* 106, 497-500(1956). — The sensitization and absorption spectra of the dihalogen-substitution compds. of 3,3',9-triethyl-5,5'-dihalothiacarbocyanine, where halo may be F, Cl, Br, or I, were studied. A 2nd J band (Jelley, *C.A.* 31, 4561[a]), J_2, was found with dichloro and dibromo derivs. sensitization and absorption spectra with dyes adsorbed upon coarse AgBr from alc. solns. The origin of the J_2 band is not clear, but it seems to represent some highly polymerized state, the formation of which depends greatly on the solvent used and the character of the adsorption surface. W. M. Sternberg

NATANSON, S.V.

USSR

530 771.534.21

Position of Sensitization Maxima in Photographic Emulsions Sensitized by Polymethin *Aza*-Cyanines. M. V. Deichmeister, I. I. Lavkoev, E. B. Lifshits, and S. V. Natanson. *Doklady Akad. Nauk. S.S.S.R.*, 1953, 93, 1057-1059.—The tetra- and hexa-methin *meroc*yanines referred to in the previous abstract, and the corresponding dimethin dyes, have sensitization maxima in silver bromide emulsions which are displaced from their absorption maxima (in alcoholic solution) by 32-189 mμ in the direction of the long waves (the usual displacement for cyanine dyes is 25-45 mμ). Also, whereas the bathochromic shifts in the absorption maxima due to lengthening of the polymethin chain average 82 and 30 mμ for di→tetra- and tetra→hexa-methin respectively, the corresponding average shifts in the sensitization maxima are each 110 mμ. It is considered that the main factor determining this behaviour is the polarizing action of silver bromide on the adsorbed dye, an effect that is greatest in dyes of low polarity. *J. Soc. Dyers and Col.*

All-Union Sci. Res. Cinephoto Inst.

Evaluation B-92873, 28 Mar 55

NATANSON, S.V.

LEVKOYEV, I.I.; SYTNIK, Z.P.; NATANSON, S.V.

Color motion-picture film photosensitizers. Usp.nauch.fot. 2:11-27 '54.
(MLRA 7:5)
(Color cinematography--Films) (Photographic chemistry)

Natanson, S.V.

6

Cyanine dyes. IX. Some tetramethoxythiacarbocyanines. I. I. Levkoev, Z. P. Sytnik, S. V. Natanson, V. V. Durmashkina, T. V. Krasnova, and R. S. Shesser. J. Gen. Chem. U.S.S.R. 24, 1999-2004(1954)(Engl. translation).— See C.A. 49, 4427g. B. M. R.

Chem Photo

NATANSON, S.V.

LEVKOYEV, I.I.; SYTNIK, Z.P.; NATANSON, S.V.; DURMASHKIN, V.V.; KRASNOVA, T.V., SHUSER, R.S.

Investigation in the field of cyanine dyes. Part 9. Certain tetramethoxythiacarbocyanines. Zhur.ob.khim.24 no.11:2034-2039 N '54. (MLRA 8:3)

1. Nauchno-issledovatel'skiy kino-fotoinstitut.
(Cyanine dyes)

NATANSON, S.B.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 7/27

Authors : Lifshits, E. B.; Natanson, S. B.; and Levkoyev, I. I.

Title : Absorption spectra of solutions of certain carbocyanine and rhodacyanine dyes in the presence of colored non-diffusion components

Periodical : Zhur. fiz. khim. 28/9, 1572-1580, Sep 1954

Abstract : The effect of colored non-diffusing components as well as other compounds on the absorption spectra of aqueous solutions of numerous cyanine and rhodacyanine dyes, was investigated. It was established that the presence of these compounds results in the appearance of a new absorption band (in the absorption spectra of the dyes) which is somewhat shifted toward the long-wave zone. The origination of these new absorption bands was found to be connected with the presence of high molecular hydrocarbon radicals in the molecule of the aqueous solution. Twenty references: 5-USSR; 6-German; 8-USA and 1-English (1909-1953). Graphs.

Institution : The All-Union Scientific Research Motion Picture Photo Institute, Moscow

Submitted : November 20, 1953

NATANSON, S.V.; LIFSHITS, E.B.; LEVKOYEV, I.I.

Causes for the lessened sensitizing activity of dyes when using non-diffusing color components. Zhur.nauch. i prikl.fot.i kin. 1 no.3: 174-182 My-Je '56. (MLRA 9:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.
(Dyes and dyeing--Chemistry) (Photographic chemistry)

NATANSON, S. V.

USSR/Chemistry - Dyes

Card 1/1 Pub. 147 - 19/35

Authors : Pokrovskaya, K. I.; Levkoyev, I. I.; and Natanson, S. V.

Title : Complex polymethine dye compounds with silver ions. Part 1. Formation of silver carbo- and polycarbocyanine complexes

Periodical : Zhur. fiz. khim. 30/1, 161-171, Jan 1956

Abstract : Thirty-two symmetrical cyanine dyes differing only by the nature of their heterocyclic radicals and the length of the polymethine chain were investigated to determine their reactivity toward the complex formation with silver ions. It was found that an increase in the basicity of cyanine dyes, due to the nature of their heterocyclic radicals and polymethine chain length, is followed by an increase in their reactivity toward silver ions and, consequently, a fogging effect in photo layers for which such dyes are applicable. Twelve references: 7 USSR, 2 Germ., 1 Indian, 1 Ital. and 1 USA. (1932-1949). Table; graphs.

Institution : Motion Picture Institute, Moscow

Submitted : May 28, 1955

Natanson, S. V.

USSR/Optics - Scientific Photography, K-11

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35965

Author: Natanson, S. V.

Institution: All-Union Scientific Research Motion Picture Photography Institute, Moscow

Title: Absorption and Sensibilization Spectra of 5.5'-dihalo-Substituted Thiacarbocyanines

Original Periodical: Dokl. AN SSSR, 1956, 106, No 3, 497-500

Abstract: Along with the usually observed J-band, a longer-wave J_2-band was observed in sensibilization and absorption spectra of 5.5'-dibromthiacarbocyanines adsorbed from alcohol solutions in a suspension of silver bromide. The J_2-band is not observed in water and gelatin solutions, in water and dry gels, or in solid films of dyes. The nature of the J-band, like that of the J_2-band, is attributed to the high molecular polymer state, the occurrence of which depends on the solvent and on the character of the surface of the adsorbent.

Card 1/1

NATANSON, S.V.; KLIMZO, E.F.

Photochemical activity of polymethine dyes in mono- and polymolecular states. Zhur.nauch.i prikl.fot. i kin.5 no.6:452-453 N-D '60. (MIRA 14:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.
(Photographic emulsions)

LIFSHITS, E.B.; MATANSON, S.V.

Sensitization spectrum of dicarbocyanine dyes. Zhur.nauch.i prikl. fot. i kin. 6 no.2:92-96 Mr-Ap '60. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.
(Photographic emulsions)

NATANSON, S.V.; SENNIKOVA, N.I.

Adsorption of cyanine dyes to silver halides. Trudy NIKFI no.40: 34-49 '60. (MIRA 15:2)
(Cyanines)(Photographic emulsions)

S/081/62/000/022/007/088
B177/B186

AUTHORS: Natanson, S. V., Kostina, M. M.

TITLE: The effect of the composition of microcrystals of silver-halide emulsions on the character of the spectral sensitivity of photographic materials

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 58, abstract 22B395 (Tr. Vses. n.-i. kinofotoin-ta, no. 40, 1960, 50-61)

TEXT: Absorption spectra (AS) were investigated of ammoniacal AgHal emulsions (E) having a solid phase of different compositions: AgCl, AgCl·AgBr, AgBr, AgBr·3% AgI, AgBr·30% AgI, sensitized by carbocyanines of varying structure. E was synthesized both by sedimentation of the solid phase after the first maturing stage, and by flushing. The carbocyanines (CC) were introduced into E after the 2nd maturing stage, before pouring into alcohol solutions of different concentrations. The different lots of E were centrifuged and the CC content and the form of the AS were determined in the gelatine solutions thus obtained. The AS of colored microcrystals of AgHal was determined by subtracting the AS of the gelatine

Card 1/2

solution from that of the emulsion layer. The composition of the solid phase has a marked effect on the character of the adsorption layer of CC, in that the more liable a given CC is to the formation of several H- or I-states of a high degree of aggregation, the more apparent is the effect of the composition of the AgHal. As a rule, during adsorption on AgHal, the quantity of CC in the aggregated state increases in a number of the solid phase compositions referred to above; aggregation is least favoured by AgCl, and favored most by AgBr·AgI. Gelatine affects the character of an adsorbed CC layer more strongly, the weaker the reaction of CC is with the adsorbent, in particular inversely as the ability of the adsorbent to produce highly-aggregated forms of CC. On the other hand, the presence of halogen ions in the liquid phase of E promotes an increase in strength of the highly-aggregated states, in the order $Cl < Br < I$. Since the I-states are the most active photo-chemically, the CC's which are inclined to produce I-aggregates are employed to best advantage in E's in which this tendency increases as a result of adsorption. It is desirable to use such CC's in the form of iodides, or to perform sensitization in the presence of Br^- or I^- ions. [Abstracter's note: Complete translation.]

S/081/62/000/004/061/087
B150/B138

AUTHORS: Livshits, E. B., Natanson, S. V.

TITLE: The sensitization spectra of dicarbocyanic dyestuffs

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 456, abstract 4L419 (Zh. nauchn. i prikl. fotogr. i kinematogr., v. 6, no. 2, 1961, 92-96)

TEXT: The absorption and sensitization spectra of a series of symmetrical and asymmetrical dicarbocyanines are investigated. As with the corresponding dyestuffs with a shorter polymethine chain, with the dicarbocyanines investigated the dyes on the surface of the silver bromide crystals pass over to the N state and with formation of I aggregates. 28 references. [Abstracter's note: Complete translation.]

Card 1/1

S/081/62/000/011/011/057
E111/E152

AUTHORS: Natanson, S.V., and Kostina, M.M.

TITLE: Influence of bromine ions on the optical sensitization of silver-halide photographic layers

PERIODICAL: Referativnyy zhurnal, Khimiya, no.11, 1962, 68, abstract 11 B 427. (Zh. nauchn. i prikl. fotogr. i kinematogr., v.6, no.5, 1961, 388-390).

TEXT: It has been found that on raising the pBr of layers sensitized with derivatives of thiacarbo-thiatricarbo- and oxacarbo-cyanine dyes, as a result of washing in water the sensitivity S rises, but does not change on immersion in KBr solutions having no effect on the pBr of the layer. Washing of the emulsion before or after sensitization to the same values of pBr leads to the same values of S. The influence of changes in the concentration of Br^- ions on S is reversible, with the exception of cases when the change in S is accompanied by any secondary processes: increase in fog or partial decomposition of the dye. Considerable changes in

Card 1/2

Z/011/62/019/006/003/003
E073/E135

AUTHORS: Natanson, S.V., and Kostina, M.M.

TITLE: Influence of bromine ions on the optical sensitizing of halogen-silver sensitized layers

PERIODICAL: Chemie a chemická technologie; Přehled technické a hospodářské literatury, v.19, no.6, 1962, 292. Abstract Ch 62-3994 (Zh. nauchnoy i prikladnoy, Fotografii i kinematografii, v.6, no.5, 1961, 588-590)

TEXT: Brief report on a study of the phenomenon that the sensitivity of silver bromide emulsions can be increased by sufficient rinsing with water prior to explosion [Abstractor's note: sensibilization]. The authors prove that the increase in sensitivity is due to a drop in the concentration of bromide ions in the emulsion.
1 figure, 3 tables, 1 reference.

[Abstractor's note: Complete translation.]

Card 1/1

NATANSON, S.V.; LEVKOYEV, I.I.

Interaction of sensitizing dyes with molecular bromide. Zhur. nauch.i prikl.fot.i kin. 7 no.4:300-304 Jl-Ag '62. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).
(Photographic emulsions)

S/058/63/000/002/026/070
A062/A101

AUTHOR: Lifshits, E. B., Natanson, S. V., Levkoyev, I. I.

TITLE: About the influence of non-diffusing color components on the process of optical sensitization of silver halide emulsions

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 96 - 97, abstract 2D627 ("Uspekhi nauch. fotogr.", 1962, v. 8, 44 - 55)

TEXT: A study was made of the influence of non-diffusing color components on the sensitizing action, the desorption and the absorption spectra in emulsions of dyes possessing different component stabilities and tendencies to polymerization. It is shown that under the influence of the components and under conditions near those applied for obtaining lightsensitive layers, practically all dyes are desorbed and then, if their sensitizing action decreases, that action is the more reduced the higher the desorption degree. The decrease of the sensitizing action of dyes is due not only to the desorption thereof, but also to the depressing influence of the adsorbed component on the transmission of the energy absorbed by the sensitizer to the silver halide lattice. It is ascertained that the character

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S/058/63/000/002/026/070
About the influence of non-diffusing color components on... A062/A101

of the spectra of sensitization and absorption on the silver halide of non-polymerizable dyes does not change in the presence of color components. In a number of polymerizable dyes the character of the absorption spectra of component stable compounds considerably varies owing both to the main desorption of various polymolecular states and to the redistribution of aggregate states in the adsorption layer. In the case of component stable sensitizers these changes are, as a rule, small. The authors assume that the increase of the sensitizing action of certain dyes in the presence of non-diffusing components, and also of a number of other surface active substances, may be explained by the elimination, from the surface of the silver halide, of ions or compounds that render difficult transmission of energy from the sensitizer to the silver halide lattice, or by the fact that the orientation of the dye molecules in the adsorption layer is favorable to the process of transmission of the absorbed energy. There are 18 references.

[Abstracter's note: Complete translation]

Card 2/2

KHEYNMAN, A.S. [Heinman, A.S.]; NATANSON, S.V.; DONATOVA, V.P.

Desensitizing effect of ultra optimum concentration of the dye. Zhur.nauch.i prikl.fot.i kin. 8 no.1:69-70 Ja-F '62. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).
(Photographic emulsions)

L 13004-65 EWI(m)/EWP(b) JD/JG
ACCESSION NR: AR4039917 S/0058/64/000/004/D112/D112

SOURCE: Ref. zh. Fiz., Abs. 4D871

AUTHORS: Grechko, M. K.; Natanson, S. V.; Al'perovich, M. A.

TITLE: Optical sensitization of silver iodide bromide emulsion with dyes having different tendencies to polymerization

CITED SOURCE: Kinotekhnika. Nauchno-tekhn. sb., vy*p. 4, 1963, 92-102

TOPIC TAGS: photosensitivity, silver halide recording material, photographic emulsion, polymerization, optical stabilizer

TRANSLATION: The absorption and efficiency of certain optical stabilizers (OS) of the carbocyanine class, having different tendencies to formation of polymer aggregates in the adsorbed state, were investigated in four negative AgBr(I) emulsions, differing in

Card 1/2

0

their preparation conditions and in the microcrystal dimensions. In the absence of the stabilizing salt, the spectra of the OS which did not polymerize at all or which formed only J-aggregates varied little from one emulsion to the other; to the contrary, the effect of the OS which formed several types of aggregates depended essentially on the type of emulsion. The stabilizing salt exerted a considerable influence on the sensitizing action of the OS, and this influence differed in character for different emulsions sensitized by the same OS. An increase in sensitivity was frequently observed here, sometimes without a change in the absorption of the adsorption OS layer, and sometimes with redistribution of different states, the degree of this redistribution being dependent on the type of emulsion. Bibliography, 31 titles. A. Kartuzhanskiy.

SUB CODE: OP, ES ENCL: 00

NATANSON, S.V.

Possibility for increasing the effect of optical sensitization. Zhur.nauch. i prikl.fot. i kin. 8 no.5:363-369 S-O '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

KHEYNMAN, A.S.; NATANSON, S.V.; DONATOVA, V.P.

Desensitizing properties of dyes in supraoptimal concentration; answer to A.V. Borin's article. Zhur. nauch. i prikl. fot. i kin. 9 no.3:216-217 My-Je '64. (MIRA 18:11)

NATANSON, S.V.; SPASOKUKOTSKIY, N.S.; KOZLOVA, Ye.S.

Formation of the J-state in aqueous solutions of cyanine dyes. Dokl. AN SSSR [illegible] no. [illegible] Apr [illegible] 4. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut. Predstavleno akademikom A.N. Terenin[illegible].

NATANSON, T. L.

USSR/Chemical Technology - Chemical Products and Their Application. Water Treatment. Sewage Water, I-11

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62449

Author: Natanson, T. L.

Institution: None

Title: Investigation of Donbass Reservoirs for the Purpose of Determining the Cause of Water Odor

Original Periodical: Vodosnabzheniye i san. tekhnika, 1955, No 8, 14-18

Abstract: From the water of 2 reservoirs which had a marshy and putrid odor (O) were isolated 138 cultures of bacteria capable of producing putrid, earthy, musty and other O. Addition to mineral medium inoculated with the selected cultures, of proteins, carbohydrates and plant extracts affected the nature of the developing O. Strongest and most persistent O was observed in protein medium, a weaker and less persistent in medium containing carbohydrates, and a very slight and fugitive O in media containing extract of

Card 1/2

GET'MAN, I.A.; MONASTYRSKAYA, N.M.; MATANSON, T.L.

A case of the development of chlorine-resistant forms of bacteria in water supply systems. Vod.i san.tekh. no.9:6-8 D '55.
(MLRA 9:3)

(Water--Bacteriology)

MATANSON, T.L.

Difficulties in water sanitary-bacteriological analysis by the method of membrane filters and the investigation of Kichenko's rapid method. Lab.delo 2 no.1:25-28 Ja-F '56. (MLRA 9:10)

1. Iz TSentral'noy kontrol'no-issledovatel'skoy vodnoy laboratorii Donbassvodtresta.
(FILTERS AND FILTRATION) (WATER--ANALYSIS)

NATANSON, T.L.

NATANSON, T.L.

Treatment and disinfection of water by chlorination in the water supply system of the Donets Basin State Trust for the Construction of Water Supply Lines. Vod. i san. tekh. no.1:11-13 Ja '58.
(Donets Basin--Water--Chlorination) (MIRA 11:1)

NATANSON, T.L.

Development of chlorine-resistant microorganisms in the Donets Basin Water Trust mains; author's abstract. Zhur. mikrobiol. epid. i immun. 29 no.11:112-113 N '58. (MIRA 12:1)

1. Iz TSentral'noy kontrol'no-issledovatel'skoy vodnoy laboratorii Dombassvodtresta (g. Stalino, Donbass).

(WATER SUPPLY, microbiology,
chlorine-resist. organisms in supply system (Rus))
(CHLORINE,
chlorination resist. microorganisms in water supply system (Rus))

GET'MAN, I.A.; MATANSON, T.L.

Some observations on supplements to the current standard 5215-50.
Lab.delo 5 no.2:45 Mr-Ap '59. (MIRA 12:5)
(WATER--PURIFICATION)

MATANSON, T.L.

On V.A.IAvrumov and N.M.Aleksandrov's article "Possible errors in analyzing water for coli titer by the membrane method." Gig. i san. 24 no.3:71 Mr '59. (MIRA 12:5)

1. Iz Tsentral'noy kontrol'no-issledovatel'skoy laboratorii promyshlennogo tresta po vodosnabzheniyu Donbassa.
(WATER--BACTERIOLOGY) (IAVRUMOV, V.A.) (ALEKSANDROV, N.M.)

NATANSON, T.L.

Development of microbes resistant to chlorine in water mains of the Donets Basin Water Trust. Gig.i san. 24 no.12:55-57 D '59. (MIRA 13:4)

1. Iz TSentral'noy kontrol'no-issledovatel'skoy vodnoy laboratorii Donbassvodtresta (g. Stalino).
(WATER SUPPLY microbiol.)
(CHLORINE)

NATANSON, T.L.

Testing the effectiveness of the OV-AKKh-1 bactericidal appartus for water disinfection. Gig.i san. 25 no.7:68-71 Jl '60.
(MIRA 14:5)

1. Iz TSentral'noy kontrol'no-issledovatel'skoy vodnoy laboratorii Donbassvodtresta.
(WATER--PURIFICATION)

NATANSON-LESKI, J.

NATANSON-LESKI, J. Where is the true Pomerania? p. 18.

Vol. 28, no. 8, Aug. 1956
TURYSTA
Poland

So: East European Accession, Vol. 6, No. 5, May 1957

IVANENKO, Ye.F., nauchnyy rukovoditel'; NATANZON, D.I., predsedatel'--
student IV kursa.

Activities of the student scientific society of Kharkov Institute of Pharmacy. Apt.delo4 no.5:39-40 S-O '55.
(PHARMACY, education, (MLRA 8:12)
in Russia, student scientific soc.)

NATANZON, D. I.

NATANZON, D.I., student V kursa; LITVINENKO, M.N., kand. farmatsevticheskikh nauk

Organizing the collection of vegetable drug material by pharmacy No.93 in Zmiyev District, Kharkov Province. Apt.delo 6 no.3:56-58 My-Je '57. (MIRA 11:1)

1. Iz Khar'kovskogo farmatsevticheskogo instituta (dir. - dotsent Yu.G.Borisyuk).
(BOTANY, MEDICAL) (MATERIA MEDICA, VEGETABLE)

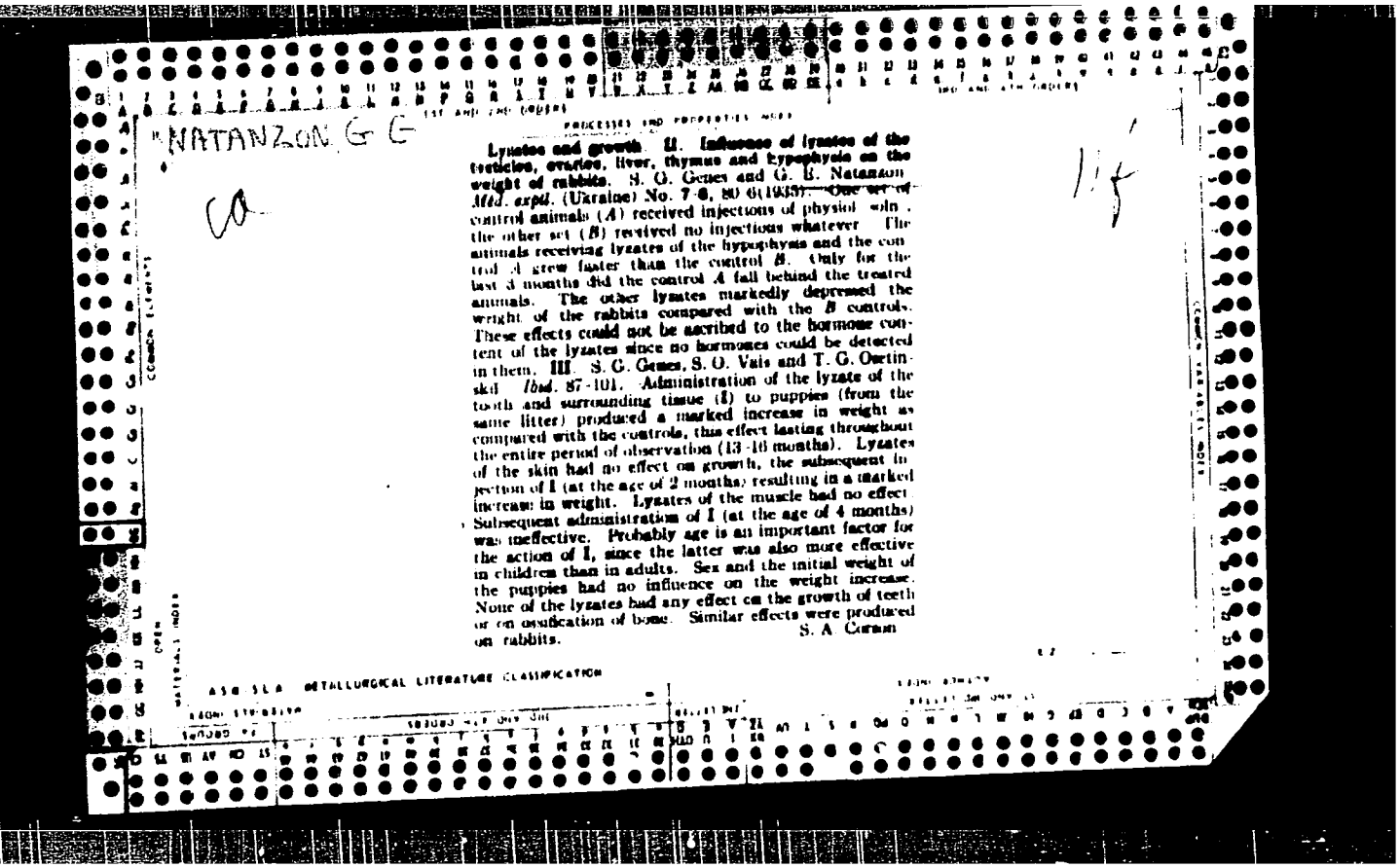
NATANZON, E. SH.

"A psychological analysis of the role of the class group in teaching an alert attitude on the part of the student toward the studies." Min Education RSFSR. Moscow Oblast Pedagogical Inst. Moscow, 1956. (Dissertations for the Degree of Candidate in Pedagogical Science)

So: Knizhaya letopis', No. 1., 1956

NATANZON, E.Sh. (Tiraspol')

Use of motion pictures in the teaching of psychology. Vop. psikhol. 11 no.3:135-137 My-Je '65. (MIRA 18:7)



NATANZON G G

Lysates and growth. II. Influence of lysates of the testicles, ovaries, liver, thymus and hypophysis on the weight of rabbits. S. G. Genes and G. B. Natanzon *Mitt. exptl.* (Ukraine) No. 7-8, 80-6(1937). One set of control animals (*A*) received injections of physiol. soln., the other set (*B*) received no injections whatever. The animals receiving lysates of the hypophysis and the control *A* grew faster than the control *B*. Only for the last 3 months did the control *A* fall behind the treated animals. The other lysates markedly depressed the weight of the rabbits compared with the *B* controls. These effects could not be ascribed to the hormone content of the lysates since no hormones could be detected in them. **III.** S. G. Genes, S. O. Vais and T. G. Oertinskl *Ibid.* 87-101. Administration of the lysate of the tooth and surrounding tissue (I) to puppies (from the same litter) produced a marked increase in weight as compared with the controls, this effect lasting throughout the entire period of observation (13-16 months). Lysates of the skin had no effect on growth, the subsequent injection of I (at the age of 2 months) resulting in a marked increase in weight. Lysates of the muscle had no effect. Subsequent administration of I (at the age of 4 months) was ineffective. Probably age is an important factor for the action of I, since the latter was also more effective in children than in adults. Sex and the initial weight of the puppies had no influence on the weight increase. None of the lysates had any effect on the growth of teeth or on ossification of bone. Similar effects were produced on rabbits.

S. A. Coram

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

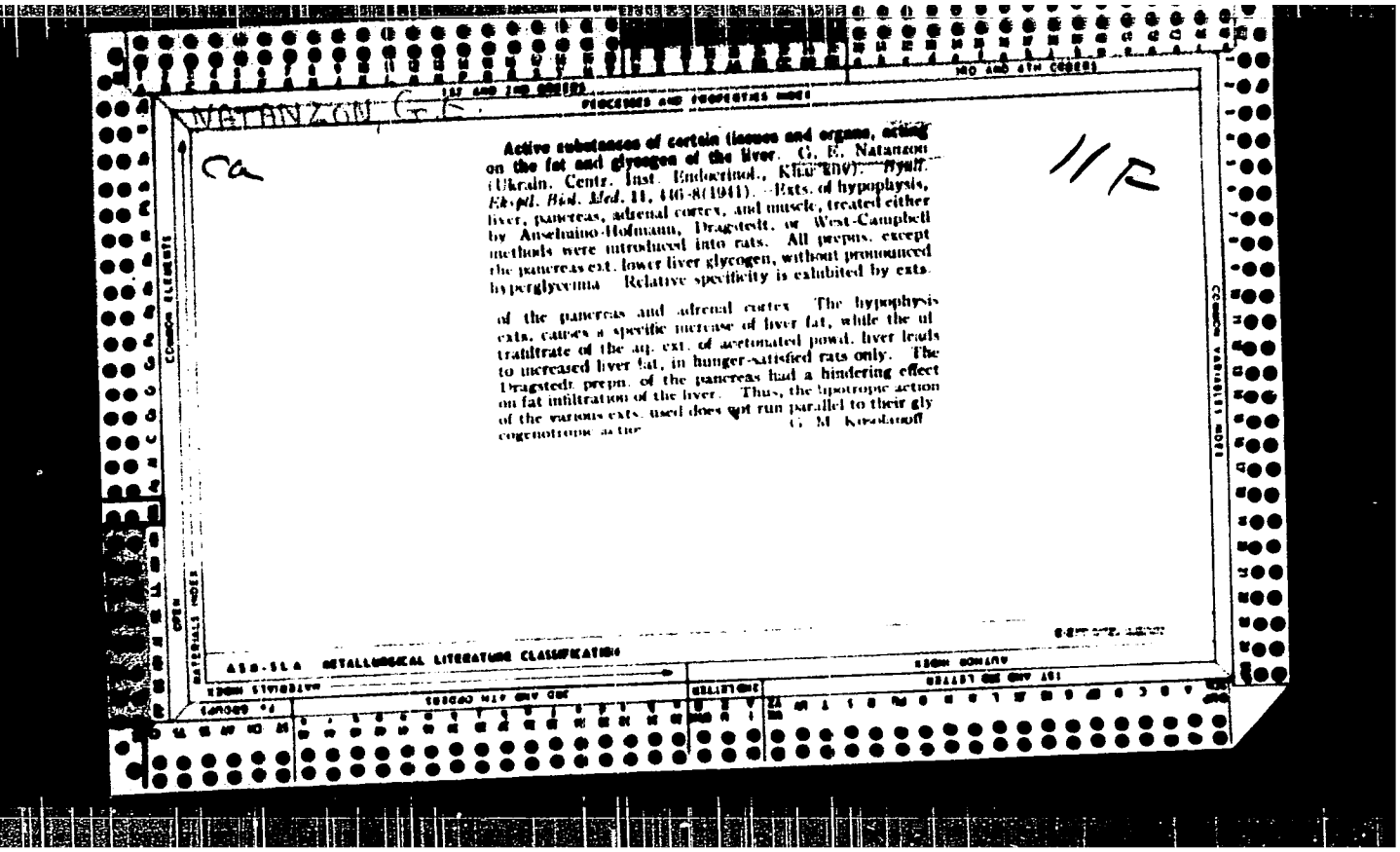
ca

11F

Lysates and the growth of the organism. IV. The influence of continuous administration of hepatolysate and hypophysolysate on the growth of young rats. G. E. [illegible] *Med. exptl.* (Ukraine) 1940, No. 2, 78-81; *Chem. Zentr.* 1940, II, 2800.—The expts. were conducted on rats 1 month and 3 days old for 6 months. Injection of 0.1 cc. of a 2% hepatolyzate per day hampered the growth of the animals during the first month 13% as compared to the control animals. With time the growth-hampering effect grew smaller and after 4 months there was no difference between the two groups of animals. Injections of hypophysolyzate in the same quantities had no effect during the first month, and only after that time was the growth accelerated up to 12%. After the 77th injection an acceleration of growth could be observed, then it leveled out to that of the control animals, and even became somewhat slower. The effect of hypophysolyzate was more pronounced in males than in females.

M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Active substances of certain tissues and organs, acting on the fat and glycogen of the liver. G. E. Natanzon (Ukrain. Centr. Inst. Endocrinol., Kharkov). *Byull. Eksptl. Biol. Med.* 11, 446-8(1941). —Exts. of hypophysis, liver, pancreas, adrenal cortex, and muscle, treated either by Anselmino-Hofmann, Dragstedt, or West-Campbell methods were introduced into rats. All prepns. except the pancreas ext. lower liver glycogen, without pronounced hyperglycemia. Relative specificity is exhibited by exts. of the pancreas and adrenal cortex. The hypophysis exts. causes a specific increase of liver fat, while the ul trafiltrate of the aq. ext. of acetonated powd. liver leads to increased liver fat, in hunger-satisfied rats only. The Dragstedt prepn. of the pancreas had a hindering effect on fat infiltration of the liver. Thus, the lipotropic action of the various exts. used does not run parallel to their gly cogenotropic actio

G. M. Kosolapoff

NATANSON, G. YE.

33501. O nekotorykh Osobennostyakh Techeniya Yazvennoy Bolezni V Voyennoye I Poslevoyennoye Vremya. Sbornik Nauch. Rabot (Ryaz. Obl. Otd. Zdravookhraneniya), Vyp. 2, 1949, c. 44-52

SO: Letopis'nykh Statey, Vol. 45, Moskva, 1949

NATANZON, G. Ye.

Natanzon, G. Ye.

"The clinical significance of vascular tests in patients with hypertonic disease." Ryazan' Medical Inst imeni Academician I. P. Pavlov. Ryazan', 1955. (Dissertation for the Degree of Candidate in Medical Sciences).

Knizhnaya letopis'
No. 21, 1956. Moscow.

MATANZON, G.Ye., kand.med.nauk; SEILOV, I.A. (Ryazan')

Change in arterial pressure following use of the nitroglycerin test. Kaz.med.zhur. 40 no.5:115-116 S-O '59. (MIRA 13:7)
(BLOOD PRESSURE) (NITROGLYCERIN)

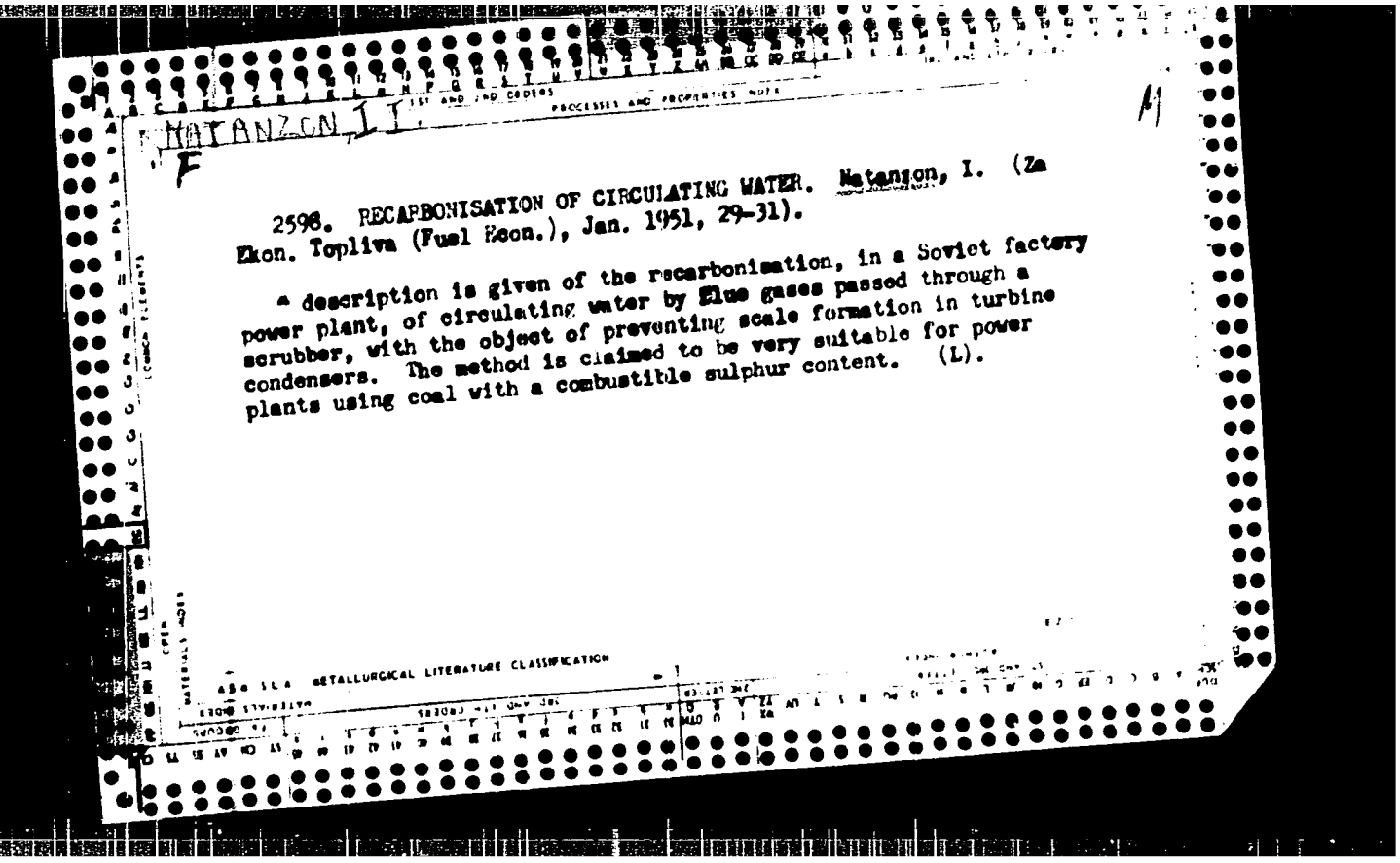
NATANZON, G.Ye., kand.med.nauk

Changes in the arterial pressure of hypertensive patients treated with reserpine during various emotions and during the cold test. Sov.med. 24 no.11:132-134 N '60. (MIRA 14:3)

1. Iz propedevticheskoy terapevticheskoy kliniki (zav. - dotsent F.I.Zenchenko [deceased]) Ryazanskogo meditsinskogo instituta imeni I.P.Pavlova.
(RESERPINE) (EMOTIONS) (HYPERTENSION)

NATANZON, I.

Neva River ship repairmen. Rech. transp. 22 no.5:29 My '63.
(MIRA 16:8)
(Neva Valley—Ships—Maintenance and repair)



MATANZON, I.

F

2598. RECARBONISATION OF CIRCULATING WATER. Matanzon, I. (Za Ekon. Topliva (Fuel Econ.), Jan. 1951, 29-31).

A description is given of the recarbonisation, in a Soviet factory power plant, of circulating water by flue gases passed through a scrubber, with the object of preventing scale formation in turbine condensers. The method is claimed to be very suitable for power plants using coal with a combustible sulphur content. (L).

METALLURGICAL LITERATURE CLASSIFICATION

KORCHINSKIY, Ye. K.; NATANZON, I. I.

Furnaces

Parameters of injector equipment for heat-treatment furnaces., Sel'khozmashina, no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952. Unclassified.

NATANZON, Izrail' Iosifovich

[Ways of increasing tractor work per shift; based on practices of leading machine-tractor stations of the Ukraine] Shliaky pidvyshchennia zminnoho vyrobitku na traktorakh; (z dosvidu peredovykh MTS URSR) Kyiv, 1955. 28 p. (MLRA 10:5)
(Ukraine--Tractors)

MATANZON, Izrail' Iosifovich

[Increasing machine and tractor productivity] Pidvyshchennia produktyvnosti mashynno-traktornoho parku. Kyiv, 1957. 53 p. (MIRA 11:6)

(Machine-tractor stations)

NATANZON, M.S. (Moskva)

Discontinuous forced oscillations of a fluid in a pipeline.
Izv. AN SSSR, Mekh. no.2:33-42 Mr-Ap '65. (MIRA 18:6)

NATANZON, M.S. (Moskva)

Effect of energy dissipation on forced discontinuous oscillations of a liquid in a pipe. Izv. AN SSSR. Mekh. no.5:77-82. S-O '65. (MIRA 18:10)

L 27282-66 EWT(d)/EWT(m)/EWP(h)/ETC(m)-6/EWP(l)/EWP(w) IJP(c) EM/WW

ACC NR: AP6016871 SOURCE CODE: UR/0373/65/000/002/0033/0042

AUTHOR: Natanzon, M. S. (Moscow)

ORG: none

TITLE: Forced relaxation oscillations of the liquid in pipelines

SOURCE: AN SSSR. Izvestiya. Mekhanika, no. 2, 1965, 33-42

TOPIC TAGS: pipeline, shock wave, fluid flow, cavitation, asymptotic solution, harmonic oscillation

ABSTRACT: Flow of the liquid in pipelines after reflection of a hydroshock wave from the ends of the line is accompanied in many cases by a region of reduced pressure. The cavitation phenomenon which occurs under definite conditions in this region may produce a substantial change in the nature of the motion of the liquid. The paper gives a method of constructing in some sense asymptotic solutions of the problem of forced oscillations. The system considered is that of a column of liquid bounded at the top by a tank at constant level and pressure, and at the bottom by a piston executing harmonic oscillations. Orig. art. has: 6 figures and 4 formulas. [JPRS]

SUB CODE: 20, 13 / SUBM DATE: 14Nov64 / ORIG REF: 005 / OTH REF: 002

Card 1/1

LOBANOV,N.; NATANZON,S.

The growth of labor productivity and problems of establishing norms. Stroi.mat., izdel. i konstr. 1 no.7:14-16 Jl'55. (MLRA 8:11)

1. Glavnyy inzhener Cheremushkinskogo kirpichnogo zavoda (for Lobanov) 2. Nachal'nik otdela organizatsii truda (for Natanzon) (Moscow--Brick industry)

NATANZON, S.N.

Organizing the work of teams servicing and repairing (brick factory) equipment. Gor.khoz.Mosk.30 no.3:21-23 Mr '56. (MLRA 9:7)

1.Nachal'nik otdela organizatsii truda Cheremushkinskogo kirpichnogo zavoda. (Moscow--Brick industry)

DONTSOV, N.V.; YEVTEYEV, V.A.; NATANZON, S.N.

Constant temperature control of clay bricks aided by remote-controlled electric thermometers. Rats. i izobr. predl. v stroi. no.3:62-64 '57. (MIRA 11:1)

(Brickmaking) (Thermometry)

NATANZON, S.

Efficient system for controlling brick quality. Stroi. mat. 3 no.5: 28-30 My '57. (MLRA 10:6)

1. Nachal'nik otdela organizatsii truda Cheremushkinskogo kirpichnogo zavoda.

(Cheremushki--Brick industry)

NATANZON, S. N.

USSR /Chemical Technology. Chemical Products and Their Application
Control and Measuring Devices.
Automatic Regulation. H-3

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1579

Author : Natanzon S.N., Dontsov N.V.

Title : Automation of the Regulation and Control of Thermal Processes in the Technology of Building Ceramics.

Orig Pub: Gor. kh-vo Moskvy, 1957, No 8, 25-31

Abstract: Description of the devices for automatic control and regulation of thermal processes, which were made and put in operation at the Cheremushkinskiy brick factory. In order to check the temperature of the block of clay, after it has been moistened by steam treatment, a semiconductor resistance

Card 1/2

USSR /Chemical Technology. Chemical Products and Their Application
Control and Measuring Devices.
Automatic Regulation.

H-3

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1579

thermometer has been designed. Systems have been evolved for automatic regulation of steam pressure in the boilers and of the temperature of the heat-transfer agent in the central duct of the heated drier.

Card 2/2

DONTSOV, N.V.; YEVTEYEV, V.A., mekhanik; NATANZON, S.N.

Automatic regulation of steam pressure in low-pressure boilers at brickmaking plants. Rats. i izobr. predl. v stroi. no.5:55-56 '58. (MIRA 11:6)

1.Nachal'nik otdela organizatsii truda Cheremushkinskogo kirpichnogo zavoda, Moskva 17 (for Natanzon). 2. Master elektrotsekha Cheremushkinskogo kirpichnogo zavoda, Moskva 17 (for Dontsov).
(Boilers) (Pressure regulators)

SOV/137-58-10-20801

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 64 (USSR)

AUTHORS: Yeremenko, V.N., Natanzon, Ya.V.

TITLE: The Role of Transfer of Matter Through the Gas Phase in the Sintering of Iron and Chromium (O roli perenosa veshchestva cherez gazovuyu fazu pri spekanii zheleza i khroma)

PERIODICAL: V sb.: Vopr. poroshk. metallurgii i prochnosti materialov. Nr 5. Kiyev, AN UkrSSR, 1958, pp 73-79

ABSTRACT: An investigation is made of the compacting occurring in the sintering of Fe powder (at temperatures of 500, 800°C) under pressures of 3.4 and 6 t/cm^2 and of free-flowing (cohesionless) Cr powder (at a temperature of 1000°) in an atmosphere of H_2 or HCl. These gases are introduced into the furnace space after heat treatment of the specimens in vacuum. It is found that the presence of up to 20-mm-Hg HCl in the sintering atmosphere does not affect the shrinkage of Fe briquettes in sintering, and fails to improve the sintering of free-flowing Cr powder. It is observed that the shrinkage of Fe powder occurs more intensively in vacuum than in a gaseous atmosphere. It is assumed that transfer of substance via the gas phase does not

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SOV/137-58-10-20801

The Role of Transfer of Matter Through the Gas Phase (cont.)

play any significant part in the sintering process under the conditions investigated.

R.A.

1. Iron--Sintering 2. Chromium--Sintering 3. Gases--Metallurgical effects

Card 2/2

S/137/62/000/006/071/163
A052/A101

AUTHORS: Yeremenko, V. N., Natanzon, Ya. V.

TITLE: Kinetics and oxidation mechanism of titanium carbide with chromium additions

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 32, abstract 6G246 (In collection: "Vopr. poroshk. metallurgii i prochnosti materialov", Kiyev, AN UkrSSR, no. 7, 1959, 7 - 17)

TEXT: Oxidation (500 - 1,200°C) of porous and hot-pressed TiC and also of porous TiC alloyed with Cr additions (up to 7.8%) has been studied. It is shown that the kinetics of oxidation is characterized by two stages; in the 1st stage the rate is determined exclusively by the rate at which the surface layers of the sample are enriched with oxygen. The 2nd stage is determined by the speed of the growth of the film. Each stage is characterized by its own value of activation energy. In the high-temperature region a Cr addition increases the resistance to the scale formation, in the low-temperature region (500 - 700°C) it decreases this resistance. The mechanism of oxidation is discussed. There are 9 references. [Abstracter's note: Complete translation] R. Andriyevskiy

Card 1/1

NATANZON Ya. V.

18.6000

AUTHORS: Yeremenko, V. N (Candidate of Technical Sciences), Natanzon, Ya. V. (Engineer)

TITLE: Changes in Electrical Conductivity During the Sintering of Metal Powders

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, Nr 1, pp 39-42 (USSR)

ABSTRACT: The authors investigated the changes in the electrical resistance of Cu- and Ni-powder compacts as they depend on size, compacting pressure, and sintering temperatures. The study also concerned changes in the electrical conductivity of Cu-Ni and Cu-Mo systems as influenced by composition, temperatures, and sintering time. The content of impurities in the powders was as follows: (1) Cu powder: Fe, 0.07. (2) Ni powder: Fe, 0.05; Cu, 0.04; Co, 0.1%. (3) Mo powder: Fe and Ni, traces. Specimens (10 cm long, 3 x 3 mm cross section) were prepared from these powders. (1) Electrical resistance of sintered specimens cooled to room temperatures was

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Changes in Electrical Conductivity During the Sintering of Metal Powders

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measured by means of a Thomson bridge. Error: + [illegible] ohm·cm. Cu and Ni powders (mesh 175 to 250) were compressed under 4, 6, 7, and 10 ton/cm^2 loads and sintered for 3 hours at 900 and 1,000° C respectively (see Fig. 1).

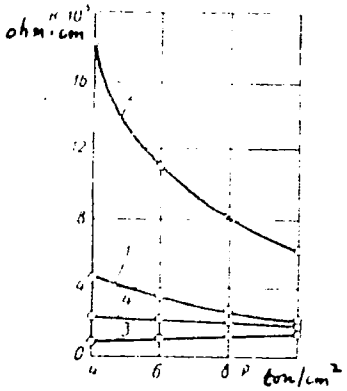

Fig. 1. Electrical resistance of green and sintered specimens versus compacting pressure. (1) Cu before sintering; (2) Ni before sintering; (3) sintered Cu; (4) sintered Ni.

Card 2/5

Changes in Electrical Resistivity During
the Sintering of Metal Powders

Tests showed that the drop of electrical resistance under increased compacting pressure in Cu-powders is primarily due to plastic deformation. The latter can increase the area of contacts to the same extent as sintering for 4 hours at 700° C. The assumption of H. H. Hausner and John H. Dedrick in "The Physics of Powder Metallurgy," 1951 [Ref 1], that thin poorly conductive layers are decisive in changing the resistance is disproved by the authors. (2) The influence of the size of Cu- and Ni—powder particles (35 to 175; 175 to 350 and 350 mesh) on electrical resistance was tested by means of sintered specimens compressed under a load of 6 ton/cm^2. Results confirmed data given in Ref 1; i.e., electrical resistance of green specimens increases with increasing fineness of powder; however, after sintering, electrical resistance is lower than in coarser powders. (3) Sintering temperatures were studied in the above powders compressed under a 4 ton/cm^2 load for 3 hours at 600, 650, 800, and 900°C(Cu), and 700, 800, 900, 1,000, and 1,100° C (Ni). The effect of sintering temperatures on the

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Changes in Electrical Conductivity During [illegible]
the Sintering of Metal Powders [illegible]

changes in electrical resistance lends itself to calculations according to the Arrhenius equation. The calculated heat of activation of the sintering process for Cu and Ni equals [illegible] cal/mole respectively. These values conform to the values of the heat of activation in the process of surface self-diffusion of Cu and Ni. (4) The effects of the composition of compacts on electrical resistance in the Cu-Mo system are illustrated in Fig. 1. As seen in that figure the curves deviate negatively from the assumed straight line of additive dependence. Minor deviations from additive values of electrical resistance of sintered Cu-Mo alloys indicate the absence of noticeable solubility of components. The change of resistance of Cu-Ni sintered powders is similar to that of mist alloys. There are 1 figure; 2 tables; and 4 references, [illegible], as given in the text.

ASSOCIATION: Kiev State University (Kiyevskiy gosudarstvennyy universitet)
Card 4/5

YEGOROV, S. V., inzh.; NATANZON, Ya. V., inzh.

New method for determining the disintegration rate of bitumen emulsions. Avt. dor. 25 no.10:11-12 O '62.
(MIRA 15:10)

(Bituminous materials—Testing)

SHCHERBAN', A.N.; FURMAN, N.I.; TARASEVICH, V.N.; NATANZON, Ya.V.; ERENBURG, I.I.

Thermopile groups of a single-chamber thermocatalytic transducer for the IM-2, IM-3, IMT-1, IM-3M, and AMT-2 automatic mine methanometers. Ugol' Ukr. 7 no.4:20-22 Ap '63. (MIRA 16:4)

1. Institut teploenergetiki AN UkrSSR (for Shcherban', Furman, Tarasevich, Natanzon). 2. Zavod "Krasnyy metallist" (for Erenburg).
(Mine gases--Measurement) (Transducers)

ACC NR: AP6034198 SOURCE CODE: UR/0369/66/002/005/0574/0577

AUTHOR: Yeremenko, V. N.; Natanzon, Ya. V.

ORG: Institute of Materials Science Problems, AN UkrSSR, Kiev (Institut problem materialovedeniya AN UkrSSR)

TITLE: Determination of the kinetics of dissolution of materials in liquid metals

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 5, 1966, 574-577

TOPIC TAGS: metal melting, metal physical property, solid dynamics, solid mechanics, solid mechanical property, physical diffusion

ABSTRACT: A schematic of the apparatus and the testing procedure is given for determining the kinetics of dissolution of the solid materials immersed in molten metals. Among the basic features of the method are: operation at $1\text{-}2\cdot10^{-5}$ mm Hg, continuous agitation of the metal, and a provision for continuous sample taking. The maximum operation temperature of the apparatus is 1500-1700°C. As an example, a kinetic curve is given for dissolution of copper in molten lead at 485°C. Orig. art. has: 1 formula, 2 figures.

SUB CODE: 07,11/ SUBM DATE: 19Apr66/ ORIG REF: 007/ OTH REF: 011

Card 1/1

NATANZON, F. I. and G. M. TYLINOV.

Elektronagrev stal'nykh zagotovok metodom soprotivlenia. (Vestn. Mas., 1949, no. 6, p. 24-31)

(Electric heating of steel bars by resistance method.)

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

NATANZON, E. I., jt. au.

Tel'nov, G. M.

Induction heating by means of resistance. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1951. 185 p. (54-22440)

TN686.T4

NATANZON, Ye. I., TEL'NOV, G. M.

Forging.

Electro-upsetting as a means of saving metal and reducing labor expenditure.
Vest. mash. 31, no. 12, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September 1952, Uncl.

TEL'NOV, G. M., NATANZON, YE. I. ENG.

Tempering

Surface tempering of push-rod adjuster bolts of automobile engines during heating with electric high frequency currents. Vest. mash. 32, No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952 1953, Uncl.

NATANZON, Ye.I., inzhener; TEL'NOV, G.M., inzhener.

Soldering of bicycle frames in the Gor'kiy automobile factory. Vest. mash. 33 no.12:51-55 D '53. (MLRA 6:12)
(Bicycles and tricycles)

NATANZON, Ye. I.

USSR/Engineering - Automobile construction

Card 1/1 Pub. 128 - 12/25

Authors : Natanzon, Ye. I., Engineer, and Tel'nov, G. M.

Title : Introduction of electro-heating into the auto manufacturing technology

Periodical : Vest. mash. 35/4, 52-55, Apr 1955

Abstract : Basic technical-economical data are given of the old and new technological processes employed in the manufacture of valve tappets and tappet adjusting screws for the GAZ-51, Pobyeda and ZIM auto-engines. It is hoped that the introduction will enable a complete mechanization of the production line. Four USSR references (1951 and 1952). Tables; drawings; illustrations.

Institution : The Gorkiy Automobile Plant im. Molotov

Submitted : .....

AID P - 4492

Subject : USSR/Engineering

Card 1/1 Pub. 128 - 19/29

Authors : Natanzon, Ye. I., Engineer, and G. M. Tel'nov (Gor'kiy Automobil Plant im. Molotov).

Title : Lowering of power requirements and of electric energy consumption in hardening with high frequency current heating.

Periodical : Vest. mash., #4, p. 70-74, Ap 1956

Abstract : Surface hardening by electric high frequency current has been found especially successful in the manufacture of small machine parts. Two methods are described as applied in the Gor'kiy Automobil Plant: 1) surface hardening by continuous-successive surface heating, 2) surface hardening with simultaneous heating and cooling. Diagrams.

Institution : None

Submitted : No date

NATANZON, Ye.I.; TEL'NOV, G.M.

Hard facing of automobile engine valve tappets by means of high-frequency currents. Avtom.svar. 14 no.9:74-78 S '61.
(MIRA 14:8)

1. Gor'kovskiy avtomobil'nyy zavod.
(Hard facing) (Induction heating)

NATANZON, Ye.I.; TEL'NOV, G.M.

Static and fatigue strength of motortruck semiaxles. Avt.prom. no.2:36-38 F '60. (MIRA 13:5)

1. Gor'kovskiy avtozavod.
(Motortrucks--Axles)

NATANZON, Ye.I.

New technological process for the heat treatment of driven gears in rear axles of the new GAZ-51 motortruck. Avt. prom. 28 no.8:40-44 Ag '62. (MIRA 16:3)

1. Gor'kovskiy avtozavod.
(Steel—Heat treatment) (Motortrucks—Axles)

ABRAMOV, V.V., doktor tekhn. nauk; GLYAVIN, Yu.V., kand. tekhn. nauk; NATANZON, Ye.I., inzh.; RESHNIN, N.Ya., inzh.; UGLOV, K.M., inzh.; YANKIN, P.V., inzh.

Effect of the temperature field on the nature of warping of a flat body after its temper hardening. Trudy GPI 17 no.3: 41-53 '61. (MIRA 16:12)

NATANZON, Ye.I.; TEL'NOV, G.M.; LANKIN, P.A., kand. tekhn. nauk, retsenzent; MAKOVSKIY, G.M., inzh., red.

[Electric induction heating and electric upsetting] Elektro-nagrev metodom soprotivleniia i elektrovysadka. Izd.2., dop. i perer. Moskva, Mashinostroenie, 1964. 132 p. (MIRA 17:11)